

ABSTRACT

A multi-channel feed network includes a common waveguide section (either square or circular) for connection to a satellite antenna for propagating two orthogonal polarizations. The feed network further includes a low pass section connected with the common waveguide, and a high pass section. The low pass section includes a band reject filter (BRF) formed from slots cut to reject higher frequency signals. The high pass section can be a rectangular waveguide functioning to filter low frequency signals. Orthogonal linear polarizations are provided for the high frequency bands by adding additional high pass sections connected by power dividers, and for the low frequency bands by adding a conventional OMT. By using two 90° degree hybrid couplers and two power dividers, a high pass network can be created to support dual circular or linear polarizations. The high pass network can be die cast as an integrated unit to simplify manufacturing.